

REPLY BRIEF UNDER 37 C.F.R. § 41.41  
U.S. Appln. No.: 09/841,486

Atty. Dckt. No. Q63961

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q63961

Yasuo IWASA, et al.

Appln. No.: 09/841,486

Group Art Unit: 1771

Confirmation No.: 4521

Examiner: Hai VO

Filed: April 25, 2001

For: POROUS RESIN FILM AND INK JET RECORDING MEDIUM

**REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.41**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.41, Appellant respectfully submits this Reply Brief in response to the Examiner's Answer dated May 21, 2007 and the Substitute Examiner's Answer mailed July 13, 2007. Entry of this Reply Brief is respectfully requested.

**Table of Contents**

STATUS OF CLAIMS .....	3
GROUND OF REJECTION TO BE REVIEWED ON APPEAL .....	4
ARGUMENT.....	5
CONCLUSION .....	15

**STATUS OF CLAIMS**

The status of the claims is as follows:

Claims 7 and 12 are canceled.

Claims 1-6, 8-11 and 13-19 are rejected.

Claims 20 and 21 are objected to as being dependent upon a rejected base claim, but are stated to be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

This is an appeal from the Examiner's rejection of claims 1-6, 8-11 and 13-19.

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

**A. Claims 1-6, 8-11 and 13-19 are rejected based on Arai et al (WO 99/46117)**

Claims 1-6, 8-11 and 13-19 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over WO 99/46117 (Arai et al). U.S. 6,632,487 to Arai et al is relied on as an equivalent form of WO 99/46117.

**B. Claim 11 is rejected based on Arai et al (WO 99/46117) in view of**

**JP 07-195827**

Claim 11 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 99/46117 (Arai et al) as applied to claim 1 above, and further in view of JP 07-195827 to Fujita (JP '827).

**ARGUMENT**

In response to the Examiner's Answer, Appellants reiterate the differences between the present invention and the cited references.

**I. Claims 1-6, 8-11 and 13-19 are not anticipated nor rendered obvious by WO 99/46117 (Arai et al).**

The Examiner has rejected the present claims based on Arai et al under 35 U.S.C. § 102 or in the alternative under 35 U.S.C. § 103.

**A. Response to the §102 Rejection**

The rejection under 35 U.S.C. § 102 is an anticipation rejection which requires that the reference identically disclose all elements of the claims. In this case, independent claim 1 recites a "self-supporting", "stretched" "film". It is Appellants' position that these terms define structural and physical elements of the claimed invention that distinguish it from the ink-receiving layer of Arai et al. See page 12, lines 20-22 of Appellants' Brief. Further, it is Appellants' position that Arai et al does not disclose a "self-supporting, stretched film" and therefore cannot be said to anticipate the present claims.

**1. "self-supporting"**

The Examiner takes the position in the Examiner's Answer that the "porous resin layer [of Arai et al] is *able* to stand up of its own *on the substrate*" and states, "it is not seen that the porous resin film *could not have been able to stand up of its own on the paper substrate* as the self-supporting film" (emphasis added). However, the proper inquiry as to whether Aria et al

anticipates the present claims is whether the powdery coating composition of Arai et al said to correspond to the stretched porous resin film of the present invention is “self-supporting” and not whether it is capable of being self-supporting.

In this regard, Appellants submit the Examiner does not appear to understand that “self-supporting” as recited in the present claims means that it is independent as opposed to being applied on a substrate and “can serve as it is” as described in the present specification at page 24, lines 5-8, since the Examiner continuously refers to the powdery coating composition of Arai et al as being “on a substrate”.

Further, the Examiner has not identified a specific embodiment, specific example or specific portion of the disclosure of Arai et al that relates to a “self-supporting” porous resin layer. More specifically, the disclosure of Arai et al does not teach, suggest or relate to a “self-supporting” porous resin layer as recited in the present claims. Specifically all the examples taught by Arai et al involve electrostatic spraying of the powdery composition mixture onto a substrate. Arai et al describes that the particles of the powdery resin composition are partially fused together to form a resin layer having a thickness of 20  $\mu\text{m}$ , but this does not *necessarily* indicate that the formed layer is “self-supporting” within the meaning of the present claims.

In the Examiner’s Answer, the Examiner refers to the disclosure at column 23, lines 25-30 of Arai et al for teaching that the particles of the powdery coating are fused to each other to form a porous resin layer having a thickness of 20 microns. However, this disclosure specifically states:

[u]sing a commercially available electrostatic spray device, the above powdery mixture was sprayed on the entire surface of the commercially available ordinary paper and the powdery mixture was heated to about 80 to 100 °C [.] under pressure thereby to fix the powdery mixture to the ordinary paper. At the same time *particles of powdery coating composition were fused to each other, partially, to form a resin layer having a thickness of 20  $\mu$ , having a space between the particles of powdery coating composition* (emphasis added).

Therefore, Appellants note that the powdery coating composition was sprayed onto an ordinary paper and fixed to the paper. Additionally, the particles of the powdery coating composition were fused to each other “partially” to form a resin layer having a space between the particles of the powdery coating composition, which further indicates that the powdery coating composition as formed is not a “self supporting” film.

In the Examiner’s Answer, the Examiner states “it is not technically erroneous to conclude that the porous resin layer [of Arai et al] is supported because it is laid down on the paper substrate because ‘self-supporting’ is generally dependent upon a thickness and/or a composition”. However, the issue is not whether the porous resin layer of Arai et al is “supported”, but whether the porous resin layer of Arai et al meets the element recited in the present claims of being “self-supporting”, which means that it is independent as opposed to being applied on a substrate and “can serve as it is” as described in the present specification at page 24, lines 5-8. To the contrary, the porous resin layer of Aria et al is supported by the paper substrate as admitted by the Examiner and is not “self-supporting” as recited in the present claims. Indeed, the powdery coating composition of Arai et al is repeatedly described as being

formed on a substrate. Therefore, the layer formed is not "self supporting" within the meaning of this term as recited in the present claims.

In response to the Examiner's comments that self-supporting is generally dependent upon a thickness and/or composition, Appellants have already noted the differences in the powdery coating composition of Arai et al and the present invention. See, e.g., pages 11-12 of Appellants' Brief. Further, Appellants note that it is described in Arai et al that the proportion of the resin in the powdery mixture is preferably 5 to 50% by weight (see column 7, lines 22 to 29, column 8, lines 4 to 10 and column 9, lines 47 to 51). Thus, the preferable proportion of inorganic fine particle is 50 to 95% by weight. Accordingly, the "resin layer" in Arai et al , which is obtained by coating the powdery mixture, contains more of an amount of the inorganic fine particles than that of the resin component. Thus, the resin layer of Arai et al is never self-supporting. Even if the resin layer of Aria has a thickness of 100  $\mu\text{m}$ , the resin layer cannot be formed alone without a substrate. Thus, it is not "self-supporting".

In other words, the porous resin layer of Arai et al, which is provided by coating, cannot be formed without providing on a substrate. Thus, the porous resin layer of Arai et al can not be formed without a substrate. Accordingly, the porous resin layer of Arai et al is not self-supporting. Thus, Arai et al does not explicitly or implicitly disclose the feature of the present invention of the stretched porous rein film being "self-supporting". For at least this reason, the present claims are not anticipated by Arai et al.

Since Arai et al is silent as to this feature of the invention, the Examiner would have to rely on a theory of inherency for this feature and inherency can not be established by probabilities or possibilities that a certain property or characteristic might be achieved if certain conditions are optimized as previously argued.

Thus, Arai et al does not explicitly, implicitly or inherently disclose a "self-supporting" film and the Examiner has not set forth a reasonable technical basis for asserting that Arai et al necessarily meets this element of the present claims. Therefore, for at least this additional reason, the present claims are not anticipated.

## **2. "stretched"**

The Examiner's position is that the term "stretched" relates to a process element. However, Appellants submit that the term "stretched" is a structural recitation as used in the present claims. The terms recited in the claims are to be given their plain and ordinary meaning consistent with the specification and with what would be understood by those of ordinary skill in the art. In this regard, it is disclosed in the present specification that the porous resin film of the invention is prepared by stretching. Stretching is said to be carried out by various known methods such as longitudinal stretching making use of peripheral speed differences among stretching roles, lateral stretching using an oven tenter, insertion of a tubular film by use a mandrel, and simultaneous biaxial stretching by a combination of an oven tenter and a linear motor. See the paragraph bridging pages 25-26 of the present specification. Based on this description and the plain and ordinary meaning of this term as commonly used in the art, one of ordinary skill in the art would consider that such stretching causes physical changes in the



molecular orientation of the film and the stretched product is called a “stretched film”.

Therefore, the article is a stretched film and the term “stretched” as used in the present claims relates to the physical properties associated with the molecular orientation of the stretched film.

Indeed, there is a subclass for products that are “stretched” such as webs and sheets and non-structural laminates where it is noted that the physical treatment generally employed for molecular orientation is applying tension under controlled conditions to a polymeric composition, and such products are called “stretched-oriented” products (see class definition for 428/910 “Products with Molecular Orientation” in the USPTO Manual of Patent Classification). Thus, it is art-recognized that stretching of a resin layer leads to an orientation in the stretched direction of a resin molecule in the layer and this is accompanied by a structural change.<sup>1</sup> By such structure, the strength of the resin layer (stiffness, tensile strength, tear strength) of the stretched resin layer increases, compared with that of a non-stretched resin layer.

As stated above, the porous resin layer of Arai et al, which is provided by coating, cannot be formed without providing on a substrate. Thus, the porous resin layer of Arai et al can not be formed without a substrate. Also, the porous resin layer of Arai et al can not be stretched and thus can not form a stretched film. Accordingly, the porous resin layer of Arai et al is not a self-supporting, stretched porous film.

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<sup>1</sup> For example, in the case of polypropylene (PP), a molecular chain of PP in a non-stretched resin film forms a spherulite, on the contrary, a spherulite in a stretched resin film is destroyed and a molecular chain of PP completely stretches in the stretched direction to form an oriented crystal

As described in the present specification, the stretched porous resin film of the invention may be used as a self-supporting film, i.e., “the stretched porous resin layer of the invention may be used ‘as such’”. Specification, page 27, lines 2-3. Since the porous resin layer of Arai et al is not stretched, it is also not self-supporting.

In view of the above, the term “stretched” is a positive structural element of the claims. Arai et al does not disclose a “stretched” porous resin film and the Examiner has not provided any disclosure or a specific example in Arai et al which indicates that Arai et al teaches, suggests or even relates to a “stretched” porous resin film. Thus, Arai et al does not explicitly or implicitly disclose all elements of the present invention. For at least this reason, the present claims are not anticipated by Arai et al.

Further, since Arai et al is silent as to this structural feature of the present invention, the Examiner would have to rely on a theory of inherency for this feature, and inherency can not be established by probabilities or possibilities that a certain property or characteristic might be achieved if certain conditions are optimized as previously argued. Therefore, for at least this additional reason the present claims are not anticipated.

### 3. “film”

Appellants submit that Arai et al does not teach a “film”. At column 1, line 1 and later in the description of Arai et al, there is a description of a “resin layer”. In this portion of the disclosure, it is described that the “resin layer” may be formed by coating the powdery mixture in a substrate, melting the powdery mixture by heating and fixing it. Arai et al also discloses Arai et al describes an embodiment of a sheet coated with a powdery coating composition. See,

e.g., column 10, lines 10-19. Specifically, Arai et al states, “on a substrate 21 there is provided a porous and continuous resin layer 25 comprising particles of a powdery coating composition 22 and a substantially continuous film 24 composed of inorganic film particles 23 in forming space between the particles of the powdery coating composition, while a portion of the inorganic fine particles 23 is exposed on the surface of the resin layer 25.”

However, as discussed above, it is described in Arai et al that the portion of the resin in the powdery mixture is preferably 5 to 50% by weight (see column 7, lines 22 to 29, column 8, lines 4 to 10 and column 9, lines 47 to 51). Thus, the preferable proportion of inorganic fine particle is 50 to 95% by weight. Accordingly, the “resin layer” in Arai et al , which is obtained by coating the powdery mixture, contains more of an amount of the inorganic fine particles than that of the resin component. Thus, it can not be mentioned that in the composition, a uniform film mainly concerning a resin is formed by melting each powdery resin component in a surface direction with melting. Accordingly, it can not be said that the “resin layer” of Arai et al is a film as recited in the present claims. Thus, for this additional reason, Arai et al does not anticipate the present claims.

In summary, Arai et al does not identically disclose at least the elements of “self-supporting”, “stretched” “film” as they relate to the porous resin film of the invention and therefore does not anticipate the present claims.

#### **B. Response to Alternative §103 Rejection**

Arai et al does not teach or suggest or provide motivation for one of ordinary skill in the art to arrive at the present invention since, as discussed above, Arai et al does not disclose the

elements of a “film” being “self-supporting” and “stretched”, and there is no disclosure in the reference which would indicate that a “self-supporting”, “stretched”, “film” is desired. In this regard, the question as to whether or not the present invention is obvious is not determined by whether or not the porous resin layer of Arai et al is capable of being “self-supporting” or of being “stretched”, but whether the reference teaches or suggests the claimed invention.

Therefore, Appellants submit that there is no motivation for one of ordinary skill in the art to modify the disclosure of Arai et al with a reasonable expectation of success, since there is no disclosure or suggestion that the powdery composition of Arai et al is intended to be used or even could be used as a “self-supporting”, “stretched” porous resin “film”.

Regarding the Examiner's position with respect to the disclosure of the thickness of a resin layer formed of the powdery coating composition being within a range of 1 to 100 micrometers, preferably from 2 to 80 micrometers and particularly preferably from 5 to 50 micrometers of Arai et al at col. 9, lines 54-67, Appellants submit that, as noted above, even when the thickness of the resin layer of Arai et al is large, i.e., 100  $\mu\text{m}$ , the resin layer can not be formed alone without a substrate, and it is not self-supporting.

In view of the above, Arai et al does not disclose, teach or suggest “a self-supporting stretched porous resin film” as recited in independent claim 1 of the present invention for the same reasons set forth above and there is no motivation for one of ordinary skill in the art to modify the disclosure of Arai et al with a reasonable expectation of success since there is no disclosure or suggestion that the powdery composition of Arai et al is intended to be used or

even could be used as a self-supporting stretched porous resin film. Thus, the claimed invention is not anticipated nor rendered obvious based on the teachings of Arai et al.

Accordingly, the rejection over Arai et al based on §102, or in the alternative, based on §103 should be reversed.

**II. Claim 11 is not rendered obvious by Arai et al in view of JP 07-195827 (JP '827)**

With respect to the rejection of claim 11 over Arai et al in view of JP '827, JP '827 does not remedy the deficiencies of Arai et al. Specifically, JP '827 also fails to disclose, teach or suggest a self-supporting stretched porous resin film as claimed. Thus, one of ordinary skill in the art would not have been motivated to combine the references with a reasonable expectation of success. Even if combined, the present invention would not have been achieved since neither of the references teaches a self-supporting stretched porous resin film within the scope of the present invention. Thus, the present invention as recited in claim 11 is not rendered obvious by the cited references.

Accordingly, the §103 rejection based on Arai et al in view of JP '827 should be reversed.

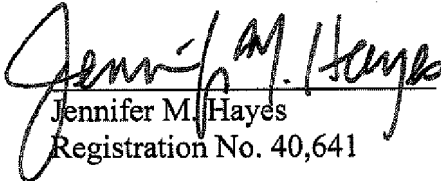
REPLY BRIEF UNDER 37 C.F.R. § 41.41  
U.S. Appln. No.: 09/841,486

Atty. Dckt. No. Q63961

**CONCLUSION**

For the above reasons as well as the reasons set forth in Appeal Brief, Appellant respectfully requests that the Board reverse the Examiner's rejections of all claims on Appeal. An early and favorable decision on the merits of this Appeal is respectfully requested.

Respectfully submitted,

  
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